

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: CS/HB 879 Financial Incentives for Electric Vehicles
SPONSOR(S): Energy & Utilities Policy Committee and Hasner and others
TIED BILLS: None. **IDEN./SIM. BILLS:** SB 1610

	REFERENCE	ACTION	ANALYST	STAFF DIRECTOR
1)	Energy & Utilities Policy Committee	23 Y, 0 N, As CS	Whittier	Collins
2)	General Government Policy Council			
3)	Finance & Tax Council			
4)	Full Appropriations Council on General Government & Health Care			
5)				

SUMMARY ANALYSIS

CS/HB 879 provides incentives for owners of highway-capable all-electric or plug-in hybrid electric automobiles in the areas of sales and use tax exemptions, corporate income tax credits, and rebates for public charging stations and after-market conversion kits.

Florida currently provides limited incentives for electric and hybrid-electric vehicles and the associated infrastructure. Section 316.0741, F.S., authorizes Inherently Low Emission Vehicles and hybrid electric vehicles that are certified and labeled in accordance with federal regulations to be driven in High Occupancy Vehicle lanes at any time, regardless of the number of passengers in the vehicle.

Congress' American Recovery and Reinvestment Act of 2009 (federal stimulus package) contains \$2 billion for investment in advanced battery technology and component manufacturing which will help to promote sales of electric vehicles and plug-in hybrid vehicles and move toward a goal of 1 million plug-in vehicles on the road by 2015. This includes federal tax credits for plug-ins of up to \$7,500 per vehicle. The federal stimulus package also provides a tax credit for any motor vehicle that is converted to a "qualified plug-in electric drive motor vehicle" of ten percent of the cost of converting the vehicle as long as it does not exceed \$40,000. Further, \$400 million is earmarked for the creation of electric vehicles and charging station infrastructure and \$300 million is allocated for regional electric vehicle and alternative fuel vehicle deployment.

The bill appropriates from the General Revenue Fund to the Department of Revenue \$200,000 per year for Fiscal Years 2009-2010 through 2015-2016 to administer the rebates for charging stations and \$5,000 per year, for the same fiscal years, for administrative costs. Additionally, \$200,000 per year for Fiscal Years 2009-2010 through 2012-2013 are appropriated to administer the rebates for conversion kits. Further, it appropriates \$200,000 from the General Revenue Fund to the Florida Solar Energy Center for Fiscal Years 2009-2010 through 2018-2019 for administrative costs to implement provisions included in the bill.

The Revenue Estimating Conference has not yet met on this bill to estimate the impact on state and local governments.

HOUSE PRINCIPLES

Members are encouraged to evaluate proposed legislation in light of the following guiding principles of the House of Representatives:

- Balance the state budget.
- Create a legal and regulatory environment that fosters economic growth and job creation.
- Lower the tax burden on families and businesses.
- Reverse or restrain the growth of government.
- Promote public safety.
- Promote educational accountability, excellence, and choice.
- Foster respect for the family and for innocent human life.
- Protect Florida's natural beauty.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Electric Vehicles

An "electric vehicle" is one that is powered by an electric motor (rather than a gasoline engine), which receives its power from a controller that is powered by rechargeable batteries.¹ Electric vehicles have existed since the 1800s and, during the late 1890s, were more prevalent in the United States than vehicles with internal combustion engines because they were quiet, did not pollute the air, and did not require gear changes. Several major developments in the first few decades of the 20th century allowed gasoline-powered vehicles to bypass electric vehicles in terms of popularity. By the 1920s, the United States was starting to connect cities by roads, increasing the need for longer-range vehicles; the price of gasoline became affordable to the average consumer with the discovery of Texas crude oil; the invention of the electric starter by Charles Kettering in 1912 eliminated the need for the hand crank; and Henry Ford began mass-producing internal combustion vehicles.²

In the 1960s and 1970s, there was a renewal of interest in the electric vehicle, as the United States began to research alternative-fueled vehicles to reduce the problems of exhaust emissions and to reduce the dependency on imported fuel. In the 1990s, the California Air Resources Board passed a zero-emission vehicle mandate, prompting several large auto manufacturers to begin work on plug-in vehicles. General Motors' EV1 made it to production but appeared too expensive to make in mass quantities.³ Most were available to rent, but few were ever offered for sale. The controversial mandate was eventually reversed and the auto manufacturers destroyed most of the remaining electric vehicles.⁴

Presently, auto manufacturers are beginning to respond to the increased interest in electric vehicles. In 2001, Toyota produced a Rav4 EV; however, it required a separate wall mount for charging. The Tesla Roadster, which began being produced in 2006, is proving to be more expensive than the average consumer can afford (the 2009 model base level price is \$109,000).⁵ The current vehicle that is being watched by the industry is the Chevy Volt, which is expected to be released by 2011 and is a plug-in hybrid that is estimated to cost around \$40,000.⁶ According to *Plug-In Now*, more than 14 major car

¹ *How Stuff Works* website: <http://auto.howstuffworks.com/electric-car.htm>.

² <http://inventors.about.com/library/weekly/aacarselectrica.htm>.

³ <http://www.time.com/time/business/article/0,8599,1871282,00.html>.

⁴ *Plug-In Now* website: <http://www.pluginamerica.org/what-are-plugins.shtm>.

⁵ <http://www.teslamotors.com/buy/resyourcar.php>.

⁶ <http://industry.bnet.com/auto/1000845/with-gm-suffering-will-the-volt-plug-in/>.

companies and at least a dozen start-ups are researching and developing new plug-in vehicles.⁷ However, the biggest concern for the future of electric cars appears to center around how efficient the batteries can become in terms of how much power they can hold and for how long.

Electric vehicles can either come straight from the auto manufacturer, such as the Tesla Roadster, or become electric by converting a normal car into an electric car.⁸ The following steps show how a typical car – in this example, a gasoline-powered Geo Prism - was converted into an electric vehicle:⁹

- The gasoline engine, along with the muffler, catalytic converter, tailpipe, and gas tank, were all removed.
- The clutch assembly was removed.
- The existing manual transmission was left in place, and it was pinned in second gear.
- A new AC electric motor was bolted to the transmission with an adapter plate.
- An electric controller was added to control the AC motor.
- A battery tray was installed in the floor of the car.
- Fifty 12-volt lead-acid batteries were placed in the battery tray (two sets of 25 to create 300 volts DC).
- Electric motors were added to power the water pump, power steering pump, and air conditioner, which used to get their power from the engine.
- A vacuum pump was added for the power brakes (which used the engine vacuum when the car had an engine).
- The shifter for the manual transmission was replaced with a switch, disguised as an automatic transmission shifter, to control forward and reverse.
- A small electric water heater was added to provide heat.
- A charger was added so that the batteries could be recharged. (Some cars have two charging systems.)
- The gas gauge was replaced with a volt meter.¹⁰

Some consumers convert the vehicles themselves, some use conversion shops, and some consumers purchase vehicles that have already been converted. There is no regulation over the quality or the safety of the conversions. Some converted vehicles use a vehicle- and model-specific after-market conversion kit, which has been tested and certified as conforming to National Highway Traffic Safety Administration Federal Motor Vehicle Safety Standards and must maintain conformance to the same United States Environmental Protection Agency emissions standards as that of the unconverted vehicle.¹¹

It is estimated that, in Florida, there are approximately 100 highway-capable all-electric or plug-in hybrid electric automobiles, ten conversion shops, and 25-30 public charging stations.¹²

Current Incentives

Florida currently provides limited incentives for electric and hybrid-electric vehicles and the associated infrastructure. Section 316.0741, F.S., authorizes Inherently Low Emission Vehicles (ILEVs) and hybrid electric vehicles (HEVs) that are certified and labeled in accordance with federal regulations to be driven in High-Occupancy Vehicle (HOV) lanes at any time, regardless of the number of passengers in the vehicle. All eligible ILEVs and HEVs must comply with the minimum fuel economy standards set forth in Title 23 of the U.S. Code, section 166(f)(3)(B). Vehicles with the appropriate decals may use any HOV lane without requiring payment of the toll. An HEV is defined, in statute, as a motor vehicle that draws propulsion energy from onboard sources of stored energy comprised of both an internal

⁷ *Plug-In Now* website: <http://www.pluginamerica.org/what-are-plugins.shtm>.

⁸ Once a car has been converted into an electric vehicle, the original warranty is voided.

⁹ Once the car was converted, the range was about 50 miles (80 km) and took about 12 kilowatt-hours of electricity to charge the battery.

¹⁰ *How Stuff Works* website: <http://auto.howstuffworks.com/electric-car1.htm>.

¹¹ Conversation with Charles Whalen, Charging Director, Florida Electric Auto Association, March 9, 2009.

¹² Conversation with Charles Whalen, Charging Director, Florida Electric Auto Association, March 12, 2009.

combustion engine using combustible fuel and a rechargeable energy storage system, and meets or exceeds the qualifying California standards for a low emission vehicle.¹³

Congress' American Recovery and Reinvestment Act of 2009 (federal stimulus package) contains \$2 billion for investment in advanced battery technology and component manufacturing which will help to promote sales of electric vehicles and plug-in hybrid vehicles and move toward a goal of 1 million plug-in vehicles on the road by 2015.¹⁴ In September 2008, Congress passed the following tax credits for plug-ins and stipulated that for a buyer to qualify for a tax credit, a plug-in must:

- Have a gross weight of less than 14,000 lbs.;
- Be propelled "to a significant extent" by a battery-powered electric motor;
- Have battery capacity of at least 4 kilowatt-hours; and
- Be able to be recharged from an external source.¹⁵

The new tax credit is the sum of a base credit of \$2,500 and an added credit of \$417 per kilowatt-hour over 5 kilowatt-hours, to a maximum of \$5,000, totaling up to \$7,500 per vehicle.¹⁶ In the stimulus package, the number of vehicles that could be eligible for the credit was expanded from 250,000 total vehicles industry-wide to 200,000 per auto manufacturer.¹⁷

The stimulus package also provides a tax credit for any motor vehicle that is converted to a "qualified plug-in electric drive motor vehicle" of ten percent of the cost of converting the vehicle as long as it does not exceed \$40,000. Further, \$400 million is earmarked for the creation of electric vehicles and charging station infrastructure and \$300 million is allocated for regional electric vehicle and alternative fuel vehicle deployment.

Effects of Proposed Legislation

CS/HB 879 provides incentives for owners of highway-capable all-electric or plug-in hybrid electric automobiles. Section 1 of the bill is divided into separate categories, as follows:

Definitions

Subsection (1) defines the following terms:

- Automobile - a car or light truck, including minivan, sports utility vehicle, or pickup truck, with 4 wheels and a curb weight of between 1,200 pounds and 5,800 pounds.
- Center - the Florida Solar Energy Center.
- Highway-capable - capable of maintaining a sustained top speed of at least 60 miles per hour.

Sales and Use Tax Exemptions

Subsection (2) provides that beginning July 1, 2009, through December 31, 2019, all highway-capable all-electric or plug-in hybrid electric automobiles¹⁸ (either as original production or converted electric) and electric vehicle components are exempt from the taxes imposed by Chapter 212, F.S. (Tax on Sales, Use, and Other Transactions), as well as upon all applicable fees payable to any county or state revenue or motor vehicle office upon application for title transfer, registration, and tags. In order to

¹³ See Section 316.0741, F.S.

¹⁴ John O'Dell, "Plug-In Hybrid Tax Credit Update: Economic Recovery Law Boosts Numbers Eligible", Edmunds.com-Green Car Advisor, February 17, 2009.

¹⁵ *Plug-Ins get jump from stimulus law*. Automotive News. http://reviews.cnet.com/8301-13746_7-10185341-48.html. March 3, 2009.

¹⁶ Ibid.

¹⁷ Obama's stimulus package expands plug-in hybrids incentives, but diesel fans unhappy. *Motor Authority*. March 4, 2009.

¹⁸ These vehicles must have a battery pack capacity of at least 10 kilowatt-hours, calculated at the battery manufacturer's 1-hour discharge rate.

qualify for the exemption, a converted vehicle must have been tested and certified as conforming to National Highway Traffic Safety Administration Federal Motor Vehicle Safety Standards and must maintain conformance to the same United States Environmental Protection Agency emissions standards as that of the unconverted vehicle.

The qualifying compliance certificates are to be issued for each individual vehicle by the Florida Solar Energy Center's Electric Drive Transportation Technologies Group (Group) through its designated regional inspection offices.

Tax Credits for Corporate Fleets

Subsection (3) provides that beginning July 1, 2009, through June 30, 2014, corporations operating a fleet of 10 or more qualifying highway-capable all-electric or plug-in hybrid electric vehicles within the state are eligible for an annual tax credit of \$1,000 per vehicle per year.

If the corporation does not have sufficient tax liability to claim all of the credit in the year that the credit is granted, the unused portion may be carried forward to subsequent tax years.

The qualifying compliance certificates are to be issued for each individual vehicle by the Group through its designated regional inspection offices.

Rebates for Installation of Public Charging Stations

Subsection (4) provides that beginning July 1, 2009, through December 31, 2016, any business, commercial establishment, or academic, health care, library, or other institution or any local, county, or state governmental entity that installs, operates, and maintains a qualifying public charging station for highway-capable electric vehicles is eligible for a one-time \$2,000 rebate from the state. The location of the charging station must be in a parking lot or garage, or a section of a parking lot or garage, which is open to the public, without restriction.

The rebate program is capped and limited to the first 100 qualifying charging station applications in each calendar year. The Group is to administer the applications, which must be received by the Group within 12 months of the installation of the charging station. The rebate payments are to be disbursed by the Department of Revenue upon notification and authorization by the Group.

Rebates for Conversion Kits Conforming to Federal Government Standards

Subsection (5) provides that beginning July 1, 2009, through December 31, 2013, a purchaser of a qualifying conversion kit that converts the purchaser's automobile to a highway-capable all-electric or plug-in hybrid electric automobile is eligible for a one-time \$2,000 rebate from the state within 12 months after the date of the conversion. The conversion kit must have been purchased and installed at a qualifying kit manufacturer's authorized installation facility in the state. Only the owner of the vehicle at the time of the conversion is eligible for the rebate.

In order to qualify for the rebate, a converted vehicle must have been tested and certified as conforming to National Highway Traffic Safety Administration Federal Motor Vehicle Safety Standards and must maintain conformance to the same United States Environmental Protection Agency emissions standards as that of the unconverted vehicle.

The rebate program is capped and limited to the first 100 qualifying converted vehicles in each calendar year. The Florida Solar Energy Center's Electric Drive Transportation Technologies Group (Group) is to administer the applications and the rebate payments are to be disbursed by the Department of Revenue upon notification and authorization by the Group.

Administrative Costs

Subsection (7) provides an estimate that the Florida Solar Energy Center's Electric Drive Transportation Technologies Group will require \$200,000 to administer the requirements of the bill. It estimates that the administrative costs of implementing the section to the Department of Revenue will require an appropriation of \$5,000.

The bill appropriates from the General Revenue Fund to the Department of Revenue \$200,000 per year for Fiscal Years 2009-2010 through 2015-2016 to administer the rebates for charging stations and \$5,000 per year, for the same fiscal years, for administrative costs. Additionally, \$200,000 per year for Fiscal Years 2009-2010 through 2012-2013 are appropriated to administer the rebates for conversion kits. Further, it appropriates \$200,000 from the General Revenue Fund to the Florida Solar Energy Center for Fiscal Years 2009-2010 through 2018-2019 for administrative costs to implement provisions included in the bill.

B. SECTION DIRECTORY:

Section 1. Creates an undesignated section of law that provides fiscal incentives for owners of highway-capable all-electric or plug-in hybrid electric automobiles.

Section 2. Provides appropriations.

Section 3. Provides an effective date of July 1, 2009.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

The Revenue Estimating Conference has not yet met on this bill to estimate the impact on state government.

2. Expenditures:

The bill appropriates from the General Revenue Fund to the Department of Revenue \$200,000 per year for Fiscal Years 2009-2010 through 2015-2016 to administer the rebates for charging stations and \$5,000 per year, for the same fiscal years, for administrative costs. Additionally, \$200,000 per year for Fiscal Years 2009-2010 through 2012-2013 are appropriated to administer the rebates for conversion kits. Further, it appropriates \$200,000 from the General Revenue Fund to the Florida Solar Energy Center for Fiscal Years 2009-2010 through 2018-2019 for administrative costs to implement provisions included in the bill.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

The Revenue Estimating Conference has not yet met on this bill to estimate the impact on local governments.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

Consumers driving electric vehicles will experience a savings through financial incentives provided in the bill and on reduced fuel purchases.

D. FISCAL COMMENTS:

None.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

The Revenue Estimating Conference has not yet met on this bill to estimate the impact on local governments.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

The Department of Revenue is authorized to adopt rules necessary to administer the corporate income tax credit and the Florida Solar Energy Center's Electric Drive Transportation Technologies Group is authorized to adopt rules necessary to determine credit eligibility for the corporate fleets income tax credit provision in the bill.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

IV. AMENDMENTS/COUNCIL OR COMMITTEE SUBSTITUTE CHANGES

On March 10, 2009, the Energy & Utilities Policy Committee reported the bill favorably as a Committee Substitute, making the following changes:

- Based on the Department of Revenue's suggestions, language was amended so that the tax and rebate incentive implementation would be facilitated.
- Removed the provision of free use of the Florida Turnpike for qualifying highway-capable all-electric or plug-in hybrid electric vehicles, which, according to the Department of Transportation, violated the Bond Resolution for the Turnpike Revenue Bonds.
- Added an appropriation of \$5,000 per year for Fiscal Years 2009-2010 through 2015-2016 from General Revenue to the Department of Revenue for administrative costs of implementing the Act.